

REMARKS

Applicants respectfully submit that independent claims 137 and 161, and the claims dependent thereon, are both novel and inventive in view of the cited prior art.

In addition to the differences between Andersson and the independent claims already acknowledged by the Examiner, Andersson fails to disclose at least the following three features:

- 1) “***Protection paths carrying non-worker data in the absence of a fault in the worker path***”.

The Examiner contended that Andersson’s recovery path 112 is the same as applicants’ protection path (defined in system claim 137), but failed to identify ***where*** Andersson discloses that the recovery path 112 carries “non-worker data in the absence of a fault in the worker path”.

As explained by Andersson in paragraph 21: “*The recovery paths are typically installed in the forwarding table at each relevant router along with the primary paths so that the recovery paths are available in the event of a network change.*” Obviously, a recovery path that is installed in a forwarding table ***cannot carry any data***.

The same conclusion is confirmed by Andersson in paragraph 63: “*The recovery paths are pre-computed so as to circumvent potential failure points in the network, and **are only activated in the event of a network failure***”, and further down in the same paragraph: “*The network nodes typically install the recovery paths in the forwarding tables as non-preferred or lower priority routes than the primary paths so that the primary paths, and not the recovery paths, are used for forwarding packets during normal operation*”.

Similar statements can be found in the last sentence of paragraph 43. In paragraph 56, Andersson discloses: “*Specifically, in the normal state of operation (state 1), traffic flows on the primary paths, with **recovery paths pre-positioned but not in use***”.

Applicants note that in the Aadvisory Aaction dated April 28, 2009, the Examiner interpreted paragraph 113 of Andersson as disclosing a recovery path carrying non-worker data. However, paragraph 113 is *silent* about recovery paths. Applicants respectfully submit that any conclusion that this paragraph discloses a recovery path carrying non-worker data is based on sheer speculation, and is not based on the information disclosed. What Andersson does disclose is that recovery paths exist only as entries in forwarding tables and are activated only in the event of a failure.

By contrast, claim 137 clearly requires that a “protection path carry non-worker data in the absence of a fault in the worker path”. The recovery path in Andersson is only an entry in a table, and is not active until it is ordered to be active, and this happens in the event of a network failure.

- 2) “*Protection means being operative for activating the entire plurality of detours to carry the worker data upon detection of a fault in the worker path*”.

Again, the Examiner relied on Andersson’s disclosure of switching communications from a primary path to a recovery path, but failed to show *where* Andersson discloses activating an *entire plurality* of protection paths. The sentence relied upon by the Examiner reads: “*Upon detecting a network failure affecting a primary path, in block 508, the logic switches communications from the primary path to a recovery path in order to bypass the network failure,*

in block 510". Applicants respectfully submit that there is nothing in this sentence about activating ***all*** the recovery paths.

There are other paragraphs in Andersson's disclosure that are clearer, and they show that the Examiner's position is not justified. For example:

Paragraph 48, lines 3-8 read: "*Upon detecting a network failure, the network nodes switch certain communications to one or more recovery paths in order to bypass the network failure, while communications unaffected by the network failure typically remain on the primary paths*".

Paragraph 100, last sentence reads: "*After the switch over to the recovery path is completed, traffic affected by the failure flows over the recovery path, while the rest of the traffic remains on the primary paths defined by the routing protocols or traffic engineering before the failure occurred*".

Thus, it is clear that Andersson discloses that the switching of the traffic to recovery paths is local and limited to the part of the network affected by the failure. This means that, in Andersson, only ***part*** of the entire plurality of the protection paths is activated after detection of the fault in the worker path. The independent claim of the present invention require activation of the ***entire*** plurality.

- 3) ***"Returning the worker data to a part of the worker path not affected by the fault from at least one of the plurality of detours providing an alternative to that part of the worker path not affected by the fault"***.

The Examiner concluded that this limitation is disclosed by in paragraph 48, lines 3-8. These lines of Andersson's disclosure are already given above in the discussion in point 2. It is

believed to be clear to any person of ordinary skill in the art that to “**remain** on the primary paths” (as disclosed by Andersson) is very different from the feature of “**returning** to the worker path” (as required by applicants’ independent claims).

Returning to the worker path requires that the traffic had to leave the worker path, and be somewhere else, in order to be able to return there. The only comment from the Examiner about this point is: “*the network nodes switch certain communications to recovery paths while communication unaffected by the network failure remain on the primary paths, see, e.g., page 3, paragraph [0048], lines 3-8*”.

Applicants respectfully submit that this sentence in Andersson is simple and clear. The words “remain” and “return” have very different meanings. The independent claims make this different meaning even clearer by requiring that said return is “**from** at least one of the plurality of detours”. In Andersson, the traffic **remains** on the primary paths not affected by the fault. The difference is clear and substantial. If the Examiner persists in his position, then applicants respectfully request that the Examiner clearly explain where in this passage Andersson discloses returning to the worker path from a protection path.

As for the secondary reference, the Examiner contended that what is not disclosed by Andersson is disclosed by Kinoshita, and that by combining these two references, a person skilled in the art would arrive at the invention as defined in the independent claims of the present application.

Kinoshita, however, does **not** disclose a situation when a failure occurs. Kinoshita is concerned about determining/defining protection paths for working paths in the case of a failure.

There is **nothing**, however, about what happens in the network of Kinoshita once a failure occurs. The Examiner is requested to note the following four points with regard to Kinoshita:

1) Kinoshita discloses that protection paths are set up automatically when working paths are set up. The independent claims of the present invention require that “the protection paths carry non-worker data in the absence of a fault in the worker path”. Kinoshita, however, only discloses setting up protection paths, and recording the results of the process in a path management information table 95, as illustrated in Fig. 24. There is **no** suggestion that non-worker data is sent via the protection paths when there is no fault in the worker path.

Kinoshita, however, gives a very clear requirement for the protection path in paragraph 12, lines 1-4: *“To provide packet protection, it is required that the same bandwidth as that for the working path be guaranteed for its protection path through which **no traffic flows before protection switching**”*. This is a very clear requirement.

2) Kinoshita also fails to disclose or suggest activating the **entire** plurality of protection paths upon detection of a fault in the worker path. Kinoshita discusses in paragraph 7 a known method of local repair: *“Among the various repair schemes currently proposed, local repair, in which a node that detects a failure or its adjacent node performs switching to the protection path, is attracting particular attention because of its capability to accomplish switching within 50 ms and its simple mechanism”*. In this method, only the node that detects failure or its adjacent node performs switching to the protection path. This means that traffic is only **locally** diverted to the protection path where the failure occurred. In paragraph 66, Kinoshita discloses that his invention also uses the local repair. With no other disclosure to the contrary, the only justified conclusion is

that Kinoshita fails to disclose activating the *entire* plurality of protection paths upon detection of a fault in the worker path.

3) Kinoshita also fails to show any returning of worker data to a part of the worker path not affected by the fault from at least one of the plurality of detours providing an alternative to that part of the worker path not affected by the fault. A protection scheme using local repair, as disclosed by Kinoshita, switches traffic from a worker path to its protection path only locally in the part of the network where the failure occurred. In this situation, obviously, there will *not* be any return of the traffic to the part of the worker path not affected by the failure, because the traffic in the worker path not affected by the fault is *not* switched to any other path. Of course, if the traffic does not leave its original path, then it cannot return there.

4) The Examiner also contended that Kinoshita discloses the sending of messages activating a protection path from both ends of the detour. Applicants respectfully submit that this is not correct. In the paragraph relied upon by the Examiner, Kinoshita discloses setting up a working path and a protection path. This means that either the protection path is not active, but merely set up in a path management information table 95 illustrated in Fig. 24, or, if one assumes that it is active, then it is not activated upon detection of a fault.

When all these numerous differences are considered, it is clear to a person skilled in the art that the independent claims 137 and 161, and the claims dependent thereon, are novel and inventive in view of the cited prior art, and that this application is now in order for allowance.

Petition is hereby made for a one-month extension of the period to respond to the outstanding Official Action to November 6, 2009. The Commissioner is hereby authorized to charge the undersigned's Deposit Account No. 11-1145 in the amount of \$130.00, as the Petition fee. If

there are any additional charges, or any overpayment, in connection with the filing of this response, the Commissioner is hereby authorized to charge any such deficiency, or credit any such overpayment, to Deposit Account No. 11-1145.

No excess claims fee is required.

Wherefore, a favorable action is earnestly solicited.

Respectfully submitted,

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